

(1947)

## BLISTER RUST CONTROL, MOUNT RAINIER NATIONAL PARK, 1947

By

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Ribes eradication work for the control of white pine blister rust on Mount Rainier National Park during 1947 was confined to the White River area as scheduled in the 1944 annual report. The work was accomplished with a crew that varied in size from 18 to 26 men under the direction of one experienced superintendent and one experienced foreman. During the season 2,134 acres were worked with an expenditure of .38 man-days per acre. Most of the work was in the vicinity of Rock Crusher Point on the east end of the area. This ribes area was larger than expected as the 1946 check had not covered the entire control unit. Two slides were found and worked that supported heavy Ribes viscosissimum which may have been the source of some infection at Sunrise Point. From Sunrise Point to the west end of the control area an intensive search was made in and around the scattered clumps of Pinus albicaulis. A number of large infected R. acerifolium were eradicated that had undoubtedly been spreading infection to the white pine. The White River campground area was reworked as originally planned, but additional work will be necessary as outlined below. Of the 2,134 acres worked in 1947, 1,612 acres were placed on maintenance, 315 acres will require a post check, and 207 acres of stream type will be checked or scouted before any future eradication work is done.

Canker elimination work was performed on both the Silver Forest and White River areas during the first few days of the season and during inclement weather. In the Silver Forest, using only eight men supervised by C. M. Chapman, 83 man-days were spent on 46 acres removing 18,960 cankers. On June 23 these men were moved to White River where the balance of the crew reported for regular ribes eradication work. During inclement weather between June 24 and July 7, 128 man-days were devoted to canker elimination work in Sunrise Park, 157,455 cankers being removed. At the White River campground seven man-days were employed removing 490 cankers.

## RECOMMENDATIONS

Longmire-Silver Forest. The 1946 check on the Silver Forest area shows that a complete reworking, as estimated in 1944, will be necessary to put this area on a maintenance basis. This check also shows several concentrations of R. bracteosum on Tatoosh Creek and one near Narada Falls. These ribes concentrations should be eliminated in conjunction with the work on the main area. Hormone sprays can be used to eliminate the R. bracteosum at a minimum cost.

Canker elimination work in the Silver Forest area in 1947 covered only 46 acres before the eight men reporting early were moved to White River for regular ribes eradication work. A crew of 10 men should be employed in 1948 to do all necessary canker elimination work in the Silver Forest area.

The following recommendation is made for 1948 for ribes eradication and canker elimination work in the Longmire-Silver Forest area: For a complete 3-month period starting about June 10, a crew composed of 28 laborers, 10 crew leaders,

2 foremen (SP-6), and 1 superintendent (SP-7). It is recommended that 10 more laborers than estimated be hired at the start to take care of losses from quits, discharges, and those leaving early for school.

White River. The 1947 work in the White River area was completed as originally planned. During the year, however, several inspections for ribes were made in the streams and upland areas adjacent to the original control boundaries. Directly across White River, opposite the campground, a heavy concentration of R. bracteosum, R. laxiflorum, R. lacustre, and R. watsonianum was located. Also, just above the present control boundaries on White River and several of its tributaries the same type of ribes concentration was found to exist. Both of these concentrations are in stream type. One upland area, located between the White River campground and Sunrise Park, comprising approximately 200 acres of white pine pole and reproduction (P. monticola), is supporting many R. lacustre. This area has never been worked as it lies between the two control boundaries, but directly adjacent to the Sunrise Park white pine (P. albicaulis) area now on maintenance, and the White River campground (P. monticola) pole area also on maintenance.

These ribes concentrations are less than one mile from P. albicaulis in Sunrise Park and P. monticola in the White River campground, and all are possible sources of infection to the white pine being protected. Ribes should be eliminated from these areas in 1948. The stream type ribes are to be eradicated by the use of chemical sprays and the upland area is to be worked by a combination of hand and chemical methods.

The following recommendation is made for 1948 for the White River area: For a complete 3-month period starting about June 10, a crew of seven laborers, three crew leaders, and one superintendent (SP-7). The superintendent must be experienced in both chemical and hand methods of ribes eradication.

Conclusion. The program recommended for 1948 is designed to complete large-scale blister rust control work in the Park and to place the selected pine areas on as good a protection basis as is economically feasible. If the 1948 program is carried through as recommended, consideration should be given to the employment during the next several field seasons of a four or five-man maintenance crew under the direction of a competent foreman to conduct surveys and to perform canker elimination and ribes eradication work as necessary. The crew could progressively cover the entire control area over a period of years which may be more satisfactory than attempting to maintain control standards with a 30-man crew at periodic intervals.

The above proposals were discussed and met with the approval of officials of the National Park Service, Bureau of Entomology and Plant Quarantine, and Bureau of Plant Industry during a meeting held at Longmire, Washington, August 27-28, 1947.

Experience in Mount Rainier National Park has shown the difficulties of protecting small white pine areas in rugged topography where ribes are numerous and widespread and where frequent fogs of long duration envelop the white pine stands. Under these conditions permanent protection is not feasible by virtue of the longer distance of spread of rust from ribes to pine. Nevertheless, on the White River, Longmire, and Silver Forest areas, experience has demonstrated that control

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work, even though behind schedule, can greatly retard the damaging effect of the rust and that a nominal maintenance program can preserve the pine in these areas for many years. Eventually all or most of the pine may be lost, but in the case of P. monticola the pine can be protected sufficiently to permit the climax species to gradually take over the site. Any changes which may occur should take place without the drastic upset in aesthetic values as is the case in the Stevens Canyon and Cowlitz areas where practically unrestricted rust development has caused an extensive unsightly scene of diseased and dying tree which will persist for years. The pine in the White River, Longmire, and Silver Forest areas already has been saved from this sudden destruction and the performance of the recommended control and maintenance work will extend the life of the pine stands many decades.

#### RESULTS

The following tables show statements of expenditures, results of the 1947 field work and accumulative results of all work performed to date:

TABLE 1

CLASSIFIED EXPENDITURES, CALENDAR YEAR 1947  
MOUNT RAINIER NATIONAL PARK

Item	National Park Service
	Regular BLR-5
Personal Services	\$13,369.50
Travel & Transportation	56.74
Contractual Services	954.90
Supplies & Materials	1,494.02
Total	\$15,875.16